

# FULLFLOW

## Summer 2022 Newsletter

[www.vapourtec.com](http://www.vapourtec.com)

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Welcome to the summer 2022 issue of FullFlow, the flow chemistry newsletter from Vapourtec, a must-read for all scientists interested in continuous processing applications and technology.

Read on to find out the latest product news, new publications using the Vapourtec flow chemistry systems, recent application notes, and upcoming events.

[Product news](#) | [Publications](#) | [Application notes](#) | [Events](#)

## Product News

vapourtec  
precision flow chemistry

### R-Series API Software

Provides a Seamless Integration  
of the Flow Chemistry System into  
the AI Laboratory of the Future

## Stage 3 of the R-Series software with OPC UA

Following on from the release of the R-Series software in March 2021, Vapourtec are happy to announce the release of the R-Series API software package. This software enables the use of OPC-UA as the system/AI interface, allowing the integration of an external algorithm or AI to monitor and automate reactions, make decisions, and perform calculations based on feedback from the flow chemistry system and connected devices.

A “closed loop” optimisation platform can be established using the API as the connectivity

library. This is an exciting development that will provide seamless integration of the flow chemistry system into the AI laboratory of the future.

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## Publications

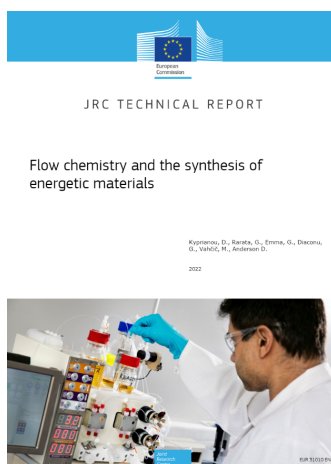
Below are 6 recent publications selected from the 100+ published citing Vapourtec since the last newsletter. To view all publications citing Vapourtec, [click here](#).



**Evaluation of unexpected protecting group removal in solid-phase peptide synthesis – quantified using continuous flow methods**

Victoire Laude, Manuel Nuño, Roger C. Moses, Duncan Guthrie

[Learn More](#)

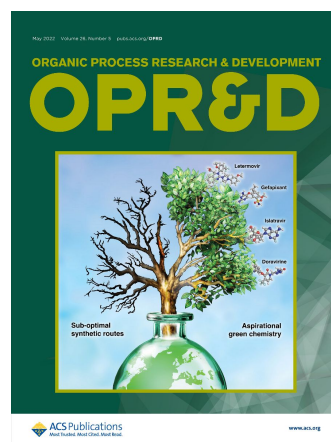


**Synthesis of energetic materials in continuous flow**

Kyprianou, D., Rarata, G., Emma, G., Diaconu, G., Vahcic, M. and Anderson, D.

Flow chemistry and the synthesis of energetic materials, EUR 31010 EN, Publications Office of the European Union, Luxembourg, 2022

[Learn More](#)



**Continuous Processing of Concentrated Organolithiums in Flow Using Static and Dynamic Spinning Disc Reactor Technologies**

Ulrich Wietelmann<sup>a</sup>, Johannes Klösener<sup>a</sup>, Peter Rittmeyer<sup>a</sup>, Stefan Schnippering<sup>a</sup>, Henk Bats<sup>b</sup>, Wouter Stam<sup>b</sup>

<sup>a</sup>Albemarle Germany GmbH, Industrial Park Hoechst, D-65926 Frankfurt am Main, Germany

<sup>b</sup>Flowid, Achtseweg Zuid 157C, NL-5651 GW Eindhoven, The Netherlands

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## Continuous slurry plug flow Fe/ppm Pd nanoparticle-catalyzed Suzuki–Miyaura couplings in water utilizing novel solid handling equipment

Alex B. Wood<sup>a</sup> Scott

Plummer<sup>b</sup> Richard I.

Robinson<sup>b</sup> Marie Smith<sup>c</sup> Jim

Chang<sup>c</sup> Fabrice Gallou<sup>d</sup> Bruce H.

Lipshutz<sup>a</sup>

<sup>a</sup>Department of Chemistry and Biochemistry, University of California, Santa Barbara, CA 93106, USA

<sup>b</sup>Global Discovery Chemistry – Chemistry Technology Group, Novartis Institutes for Biomedical Research, 250 Massachusetts Avenue, Cambridge, MA 02139, USA

<sup>c</sup>Genomics Institute of the Novartis Research Foundation, 10675 John J Hopkins Dr., San Diego, CA 92121, USA

<sup>d</sup>Novartis Pharma AH, CH-4057 Basel, Switzerland

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## Technological Innovations in Photochemistry for Organic Synthesis: Flow Chemistry, High-Throughput Experimentation, Scale-up, and Photoelectrochemistry

Laura Buglioni<sup>a,b</sup> Fabian

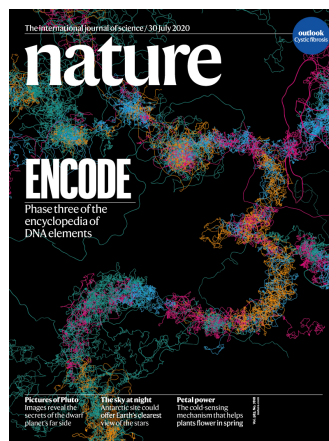
Raymenants<sup>a</sup> Aidan Slattery<sup>a</sup> Stefan

D. A. Zondag<sup>a</sup> Timothy Noël<sup>a</sup>

<sup>a</sup>Flow Chemistry Group, van 't Hoff Institute for Molecular Sciences (HIMS), Universiteit van Amsterdam (UvA), Science Park 904, 1098 XH, Amsterdam, The Netherlands

<sup>b</sup>Micro Flow Chemistry and Synthetic Methodology, Department of Chemical Engineering and Chemistry, Eindhoven University of Technology, Het Kranenveld, Bldg 14 —Helix, 5600 MB, Eindhoven, The Netherlands

Learn More



## Cobalt-electrocatalytic HAT for functionalization of unsaturated C–C bonds

Samer Gnaim<sup>a</sup>, Adriano Bauer<sup>a</sup>, Hai-Jun Zhang<sup>a</sup>, Longrui Chen<sup>a</sup>, Cara Gannett<sup>b</sup>, Christian A. Malapit<sup>c</sup>, David E. Hill<sup>d</sup>, David Vogt<sup>c</sup>, Tianhua Tang<sup>c</sup>, Ryan A. Daley<sup>a</sup>, Wei Hao<sup>a</sup>, Rui Zeng<sup>b</sup>, Mathilde Quertenmont<sup>e</sup>, Wesley D. Beck<sup>c</sup>, Elya Kandahari<sup>d</sup>, Julien C. Vantourout<sup>a</sup>, Pierre-Georges Echeverria<sup>e</sup>, Hector D. Abruna<sup>b</sup>, Donna G. Blackmond<sup>a</sup>, Shelley D. Minter<sup>c</sup>, Sarah E. Reisman<sup>d</sup>, Matthew S. Sigman<sup>c</sup> & Phil S. Baran<sup>a</sup>

<sup>a</sup>Department of Chemistry, The Scripps Research Institute (TSRI), La Jolla, CA, USA

<sup>b</sup>Department of Chemistry and Chemical Biology, Cornell University, Ithaca, NY, USA

<sup>c</sup>Department of Chemistry, University of Utah, Salt Lake City, UT, USA

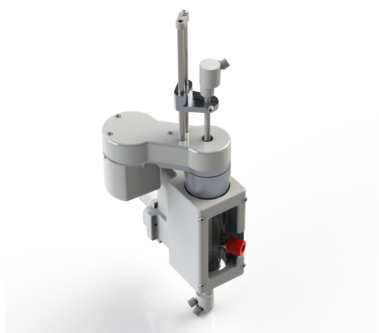
<sup>d</sup>The Warren and Katharine Schlinger Laboratory for Chemistry and Chemical Engineering, Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA, USA

<sup>e</sup>Minakem Recherche, Beuvry-la-Forêt, France

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## Application Notes



### Application Note 72: Cleaving peptides in flow

In this application note, we demonstrate how safe, fast and reliably a peptide is cleaved from a resin in continuous flow. Different cleavage conditions were evaluated using Glucagon-like peptide-1 (GLP-1) as an example peptide. By using the Variable Bed Flow Reactor (VBFR), the packing density of the resin was controlled throughout the reaction, minimising dilution and eliminating channelling of reagents.

[Read More](#)

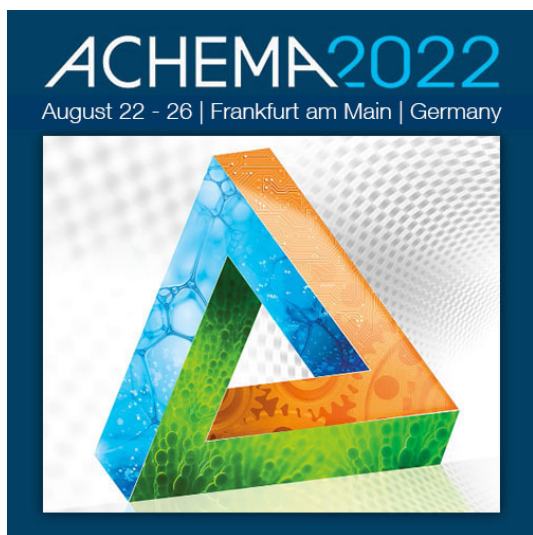


### Application Note 73: Use of CSTR for biphasic reaction scale up

[Vapourtec](#) has teamed up with UK-based reactor manufacturer [Stoli Chem](#) to demonstrate a new range of continuous stirred tank reactors with Vapourtec. The capabilities of this reactor setup are demonstrated by the results obtained in a scaled-up biphasic Steven's oxidation reaction yielding 1.4 kg/day.

[Read More](#)

## Events



## ACHEMA

*22nd – 26th August 2022*

*Frankfurt am Main – Germany*

Modern, interactive and always up to date: With a unique range of topics, exciting focal topics and new event formats, the world's leading trade show for the process industries brings together experts, decision makers and trendsetters from all over the world.

Find out more >>>



## 36th EPS European Peptide Symposium | 12th IPS International Peptide Symposium

*28th August – 2nd September 2022*

*Sitges – Spain*

The 36EPS scientific committee has set out to assemble an exciting program with a broad range of topics covering, among others, advances in peptide chemistry and structure, bioactive peptides and their therapeutic applications, and peptide biomaterials, nanotechnology and delivery.

Find out more >>>



## 13th Edition CFRT – Continuous Flow reactor Technology for Industrial Applications

*28th September – 29th September 2022*

*Graz – Austria*

The 13th edition of the CFRT will be held in Graz (Austria) on September 28-29,



## Lorentz Center Workshop on Photocatalysis

*17th October – 20th October 2022*

*Leiden – Netherlands*

Winners of the 2021/22 Chemistry Competition of the Lorentz Center and the Royal Netherlands Chemical Society were Sonja Pullen – University of Amsterdam, Line Næsberg – WWU Münster &

2022. In addition, there will be a half-day hands-on course on September 27th. This world-renowned symposium is Teknosienze's annual technical conference in the flow chemistry field and provides opportunity to engage with industrial key players.

[Find out more >>>](#)

Sebastian Beil – Stratingh Institute for Chemistry. The organizers are young PI's and all have a strong background in the different areas of the topic. We congratulate the winners and we look forward to attending this high quality workshop with them in October.

[Find out more >>>](#)



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